ABSTRACT

Processing a packet typically includes enqueuing the packet on to a queue when it arrives at a device, and then at some later time under control of the scheduler, dequeuing the packet for transmission. The scheduler needs some representation of the packet length for its uses when dequeuing. By storing the packet length as an adjusted packet length containing fewer bits, the scheduler and any storage of the packets lengths in the queues are reduced in complexity/size. One implementation maintains a residue amount corresponding to one or more packet queues or streams of packets. The residue amount is updated to maintain a forward looking or lagging behind indication of the error induced by this approximation. An adjusted packet length for the packet is determined based on its actual packet length and the residue amount. The residue amount is accordingly updated to reduce any long term error induced by using the adjusted packet lengths.

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